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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/564,046

05/10/2006

Richard Hendrickus Brinkhuis

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HOWREY LLP-HN

C/O IP DOCKETING DEPARTMENT

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EXAMINER

NGUYEN, HAIDUNG D

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

08/07/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/564,046	Applicant(s) BRINKHUIS ET AL.	
	Examiner Haidung D. Nguyen	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-7 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-11 and 13-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/10/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).
2. Applicant's election with traverse of Group II (Claims 8, 9 and 10-21) in the reply filed on 5/1/09 is acknowledged. The traversal is on the ground(s) that there would be no serious burden on the Examiner that the alleged distinct groups I and II would not require searching in different classes/subclasses and that prior art applicable to one alleged group would likely be relevant to the other, as the groups likely related. This is not found persuasive because there would be serious burden on Examiner to perform search employing different search queries since the composition of Group II, claim 8, which does not necessary be used as a SCA and can be used in other methods such as controlling the rheology of a composition not used for coating.
3. Applicant's election with traverse of the species listed on claims 11 and 12 in the reply filed on 5/1/09 is acknowledged. The traversal is on the ground(s) that there would be no serious burden on the Examiner that the alleged distinct species. This is also not found persuasive because the species are not obvious variants of each other due to their mutually exclusive characteristics. The species require employing different search queries, and the searches required (for each species) are not coextensive; and/or the prior art applicable to one species would not likely be applicable to another species.
4. The requirement is still deemed proper and is therefore made FINAL.
5. Applicant elected alpha-methylbenzylamine as a methylamine species for prosecution on the merits, thus claim 12 is withdrawn from consideration.

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6. Applicant elected hexamethylene-1,6-diisocyanate as an monoisocyanate species. However, it is noted that hexamethylene-1,6-diisocyanate is not a monoisocyanate. Action is required.

7. Claims 1-7 and 12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and species.

DETAILED ACTION

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*,

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131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 13 recites the broad recitation “wherein the hydrocarbyl is selected ... and alkenyl”, and the claim also recites “preferably selected from ...” which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 8-11, 13-15, 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurosaki et al (JP 2000-226442). Machine translation is used for the rejection purposes.

Regarding claim 8, Kurosaki et al discloses a rheology modification agent (curing accelerators -abstract) obtained by reacting one or more polyisocyanate selected from the group consisting of substituted or unsubstituted linear aliphatic polyisocyanates with an even number of carbon atoms in the chain between two isocyanate groups and substituted or unsubstituted arylene, aralkylene, and cyclohexylene polyisocyanates (tolylene diisocyanate, dipheylmethane diisocyanate, phenylene diisocyanate, naphthalene diisocyanate – para 0006) with one or more optically active carbon-substituted methylamines of formula I, wherein the amine of formula I is not an optically active amino acid and not an optically active amino acid ester (methylbenzyl amine – para 0007).

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Regarding claim 9, Kurosaki does not expressly disclose the rheology modification agent with the general formula X[urea-chiral centre]_n, X being the linking group of the molecule and n being the number of [urea-chiral centre] moieties and n is 2 or more.

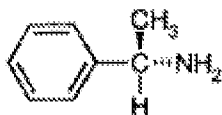
However, "Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established." *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

"When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 562 F.2d at 1255, 195 USPQ at 433. See also *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

Regarding claim 10, Kurosaki discloses the rheology modification agent wherein the optically active amine of formula I is selected from compounds of the formulas IV and V, wherein R is linear or branched, substituted or unsubstituted, saturated or unsaturated hydrocarbyl or a heteroatom containing group (methyl benzyl amine – para 0007).

Regarding claim 11, Kurosaki discloses the rheology modification agent wherein the

optically active amine of formula I is



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Regarding claim 13, Kurosaki discloses the rheology modification agent wherein the formula I having the hydrocarbonyl from the group consisting of linear, cyclic, or branched, substituted or unsubstituted, saturated or unsaturated C1-C25 alkyl, aryl, aralkyl, and alkenyl, preferably selected from the group consisting of linear or branched C1-C25 alkyl, even more preferably selected from the group consisting of linear or branched C1-C5 alkyl, and most preferably R is a methyl or ethyl group (methyl benzyl amine – para 0007).

Regarding claim 15, Kurosaki discloses the rheology control agent (hardening accelerators, abstract) comprising the rheology modification agent, wherein the rheology control agent is selected from the group consisting of adhesives, printing inks, detergents and cleaning applications, paper and paperboard industries, textile, leather, and carpet applications, construction compounds, pigment compositions, mining compounds, cosmetics, and/or coating compositions (adhesive, lamination, molding materials – 0002, 0025).

Regarding claim 19, Kurosaki discloses concentrates of the rheology modification agent in a binder (epoxy resin - 0001, 0014).

Regarding claim 20, Kurosaki discloses compositions with improved rheology comprising modification agent (curing accelerator compositions – abstract).

Regarding claim 21, Kurosaki discloses compositions are components in a coating, printing ink or adhesive composition (adhesive, lamination, molding materials – 0002, 0025).

14. Claims 8-11, 13-16, 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buter (4,311,622) in view of Kurosaki et al (JP 2000-226442).

Regarding claim 8, Buter discloses a rheology modification agent (sag control agent -abstract) obtained by reacting one or more polyisocyanates selected from the group consisting of substituted or unsubstituted linear aliphatic polyisocyanates with an even number of carbon atoms in the chain between two isocyanate groups and substituted or unsubstituted arylene, aralkylene, and cyclohexylene polyisocyanates (col 1, ln 36-57) with one or more monoamine including benzylamine, ethylamine, n-propylamine, sec.propylamine, n-butylamine, sec.butylamine, tert.butylamine, n-pentylamine, .alpha.-methylbutylamine, .alpha.-ethylpropylamine, .beta.-ethylbutylamine and .gamma.-methylbutylamine (col 1, ln 60-66).

Buter does not disclose the monoamine being one or more optically active carbon-substituted methylamines of formula I, wherein the amine of formula I is not an optically active amino acid and not an optically active amino acid ester.

Kurosaki et al discloses a rheology modification agent (curing accelerators - abstract) obtained by reacting one or more polyisocyanates selected from the group consisting of substituted or unsubstituted linear aliphatic polyisocyanates with an even number of carbon atoms in the chain between two isocyanate groups and substituted or unsubstituted arylene, aralkylene, and cyclohexylene polyisocyanates (tolylene diisocyanate, dipheylmethane diisocyanate, phenylene diisocyanate, naphthalene diisocyanate – para 0006) with one or more optically active carbon-substituted methylamines of formula I, wherein the amine of formula I is not an optically active

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amino acid and not an optically active amino acid ester (methylbenzyl amine – para 0007).

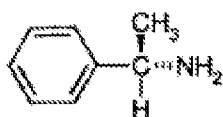
It would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed the optically active carbon-substituted methylamines as taught by Kurosaki in the rheology modification agent of Buter as an equivalent alternative monoamine, in order to provide compositions having excellent in temperature sensitive for use in IC packaging, lamination and adhesives (0025).

Regarding claim 9, neither Buter nor Kurosaki expressly disclose the rheology modification agent with the general formula $X[\text{urea-chiral centre}]_n$, X being the linking group of the molecule and n being the number of [urea-chiral centre] moieties and n is 2 or more. However, "Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established." *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 562 F.2d at 1255, 195 USPQ at 433. See also *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

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Regarding claim 10, Kurosaki discloses the rheology modification agent wherein the optically active amine of formula I is selected from compounds of the formulas IV and V, wherein R is linear or branched, substituted or unsubstituted, saturated or unsaturated hydrocarbyl or a heteroatom containing group (methyl benzyl amine – para 0007).

Regarding claim 11, Kurosaki discloses the rheology modification agent wherein the



optically active amine of formula I is

Regarding claim 13, Kurosaki discloses the rheology modification agent wherein the formula I having the hydrocarbyl from the group consisting of linear, cyclic, or branched, substituted or unsubstituted, saturated or unsaturated C1-C25 alkyl, aryl, aralkyl, and alkenyl, preferably selected from the group consisting of linear or branched C1-C25 alkyl, even more preferably selected from the group consisting of linear or branched C1-C5 alkyl, and most preferably R is a methyl or ethyl group (methyl benzyl amine – para 0007).

Regarding claim 14, Buter discloses the diisocyanate being hexamethylene-1,6-diisocyanate (col 1, line 50).

Regarding claim 15, Buter discloses the rheology control agent (thixotropic coating composition - abstract) comprising the rheology modification agent, wherein the rheology control agent is selected from the group consisting of adhesives, printing inks, detergents and cleaning applications, paper and paperboard industries, textile, leather, and carpet applications, construction compounds, pigment compositions, mining compounds, cosmetics, and/or coating compositions (paint, coating col 3, ln 24-41).

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Regarding claim 18, Buter discloses the rheology modification agent is a component of a coating film that is applied onto a substrate before said coating film is cured (example 1).

Regarding claim 19, Buter discloses concentrates of the rheology modification agent in a binder (abstract, col 1, ln 36-68)

15. Claims 8-11 and 13-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buter (4,311,622) in view of Kurosaki et al (JP 2000-226442) and further in view of Flosbach et al (6,815,501).

Buter in view of Kurosaki disclose a rheology control composition prepared from a binder and a rheology modification agent (sag control agent), wherein the rheology modification agent which is the reaction product of a diisocyanate and a monoamine as set forth above and incorporated herein.

Flosbach et al discloses a dual cure coating compositions based on acryloyl functional compounds (col 3, ln 52; col 6, ln 49) using a sag control agent prepared from amines and polyisocyanate (col 8, ln 34). The teachings demonstrate that a sag control agent prepared from amines and polyisocyanate are recognized in the art as suitable additive for coating systems. In light of this, it has been found that the selection of a known material based on its suitability for its intended use support a *prima facie* obviousness determination. MPEP 2144.07.

Thus, it would have been obvious to employ the rheology control composition as taught by Buter in a dual cure coating compositions based on acryloyl functional compounds as taught by Flosbach.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haidung D. Nguyen whose telephone number is (571)270-5455. The examiner can normally be reached on M-Th: 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Harold Y Pyon/
Supervisory Patent Examiner, Art
Unit 1796

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